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Dissertation on general etiology

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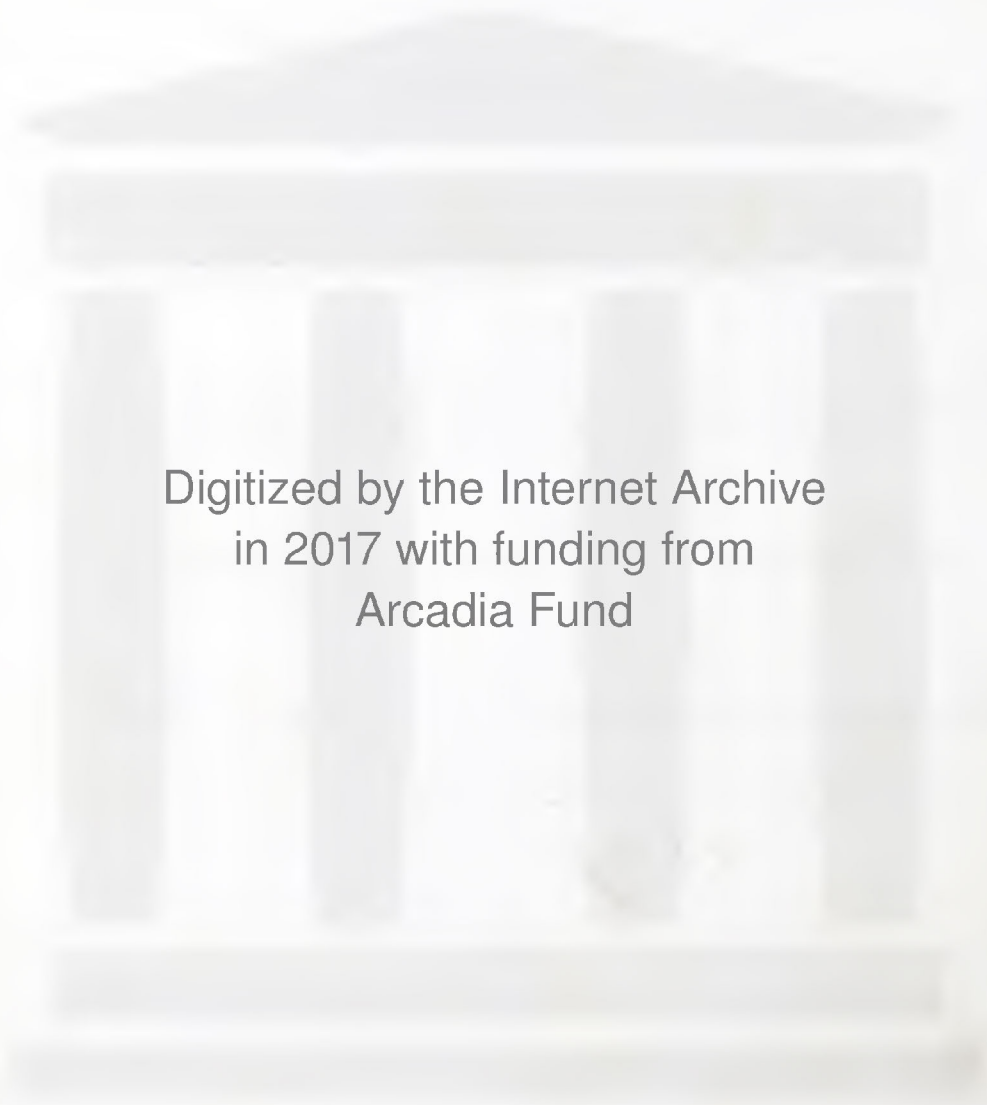


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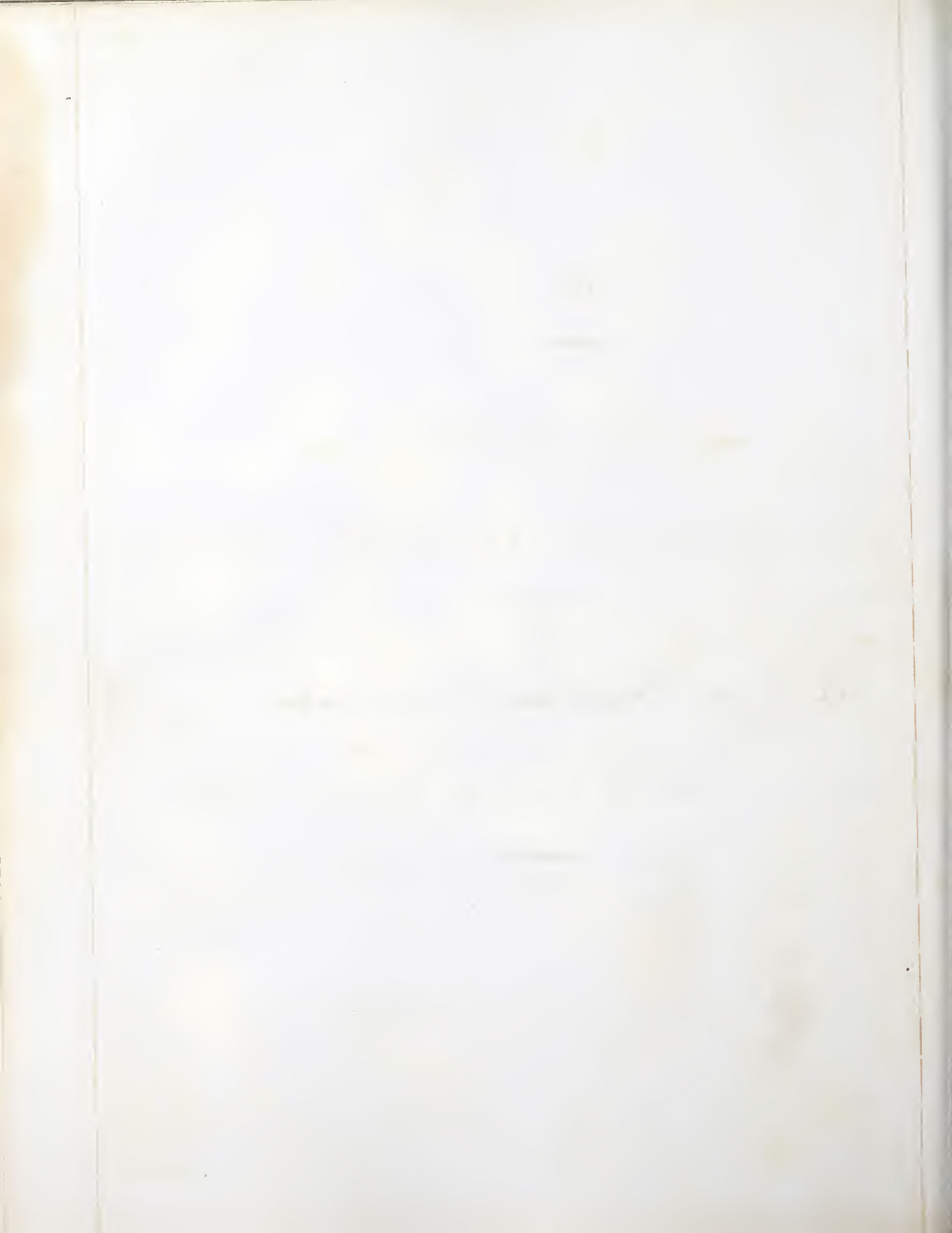
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VI.
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Dissertation
on
General Etiology.

By
Roger Smith Olmstead,
of New Haven,
Candidate for the Degree of Doctor in Medicine.
—



General Etiology

In the consideration of this subject - I wish to remark at the outset - I desire to make no pretensions, either to Originality of Thought, or, to Elegance of Diction. The peculiarity of the subject & my own imperfect acquaintance with it - render it utterly presumptuous for me to lay any claims to the former; while the latter is entirely incompatible with my idiosyncrasy -

I have chosen Etiology as the subject of my Thesis, - from the inducements which it offers to its study - as a branch of Pathology - from the intimate relation which an acquaintance

with it sustains to the formation of a correct & satisfactory diagnosis - thereby affording some valuable indications for the application of Remedial Agents -

What then is Etiology?

It is that branch of Medical Science which treats of the causes of disease - i.e. - of the ^{of the solids} conditions under which, either the vital actions, or the vital properties of the fluids of the body become liable to deviations from their normal state - — Such being the definition & such the nature of the subject upon which we have entered - it must be apparent upon a moment's reflection that the successful prosecution of it depends upon & necessarily involves an acquaintance with the human body - 1st in relation to its organization & mechanism & 2^{ndly} ^{from} - in relation to that superior, by the influence of which this mechanism is actuated - the principle of life - through its mode of manifestation in the various functions - or, in other words - of Human Anatomy & of Human Physiology -

Thus instructed, the Student is enabled, ^{to} comprehend
the beautiful combination of physical principles
incised by the human body; & to understand
how they are directed by, & made subservient to
life whether in perpetuating its healthy direction
a in guarding against agents threatening any
of the functions & organs which it endows,
a in removing derangements when actually
produced. He is now prepared to consider
advantageously, those derangements of function
& structure with which the pathologist & prac-
titioner are chiefly concerned & he thus ascertains
that— the conditions of life as manifested in
the functions either of a single organ, or of the
frame generally, are liable to change from
internal or external causes; & the resulting ab-
stractions modify the structures with which
this principle is so intimately & mysteriously
related;— & on the other hand, that, the states
of the animal organs & textures are readily
affected by agents acting directly upon their
organization;— & that these states of structure

modify its vital manifestations, & through them, the vital endowment of the body generally.

Whenever, therefore, changes take place in the conditions of life, as manifested either in the functions or organization, that state of the animal economy supervenes which has been called - Disease - & it may be produced by causes acting sometimes singly, occasionally in combinations, & frequently in succession - To point out the nature & modes of operation of these causes - as far as their natures & effects are known, is the object here proposed.

I have already spoken of Life as that principle upon which the different textures are dependent for their preservation & the various functions for their healthy continuance; this is apparent from the readiness with which the elementary particles of that matter with which it is so intimately connected enter into different combinations & forms as soon as the principle is withdrawn. But further; - it has been inferred

from the gradual manner in which derangements are produced & from the nature & effects of the disorder which follows, that the causes of disease do not, usually, act primarily upon the textures & organs themselves, but that they make their first impression upon the vital endowment of the organ, disordering the functions which it performs under the dominion of Life; which functional disorder may lead to structural derangement or terminate in the restoration of the part to a state of health. — Some causes there are, undoubtedly, which affect at once the organization of the part, such as many chemical, physical & mechanical agents; but the majority modify the vital manifestations of the frame & thereby induce effects, which become themselves causes of further disease, until Life is terminated, or a healthy condition of function re-established.

This powerful influence of Life, then, over the functions of the organs with which animals are endowed, & the manner in which causes

modify the conditions of this principle, whether acting immediately upon it, or through the medium of the organization with which it is allied, are among the most important topics which interest the medical practitioner.

The Causes of Disease have been variously named & classified by Pathologists - They have been denominated External or Extrinsic & Internal or Intrinsic according as they operate upon the body from without or within - From their relation to disease they have been named Principal & Accessory or Concurrent - They have also been called Positive & Negative from the manner in which they act upon the body, & according to their nature have been divided into Physical, Chemical & Physiological - The division of causes, most generally adopted, however, at the present time, arises from the relation which they bear to the disease which follows & are termed Remote & Proximate - or by some Efficient & Constituent. The Proximate cause

has been defined to be - "illa quae praeiens
morbum facit, sublata tollit, mutata mutat."
- in short, the disease itself - It is not, therefore,
properly & strictly speaking, a cause - since it
is nothing more than the effect produced by
the action of those causes which have excited
the disease - but may be considered, rather,
as a pathological state arising directly from
the operation of the remote agents. -

The Remote Causes have been divided into -
- The Predisposing & Exciting - Predisponent & Occasional
- a Progenital & Procatartec - terms used by
some of the ancient authors. The first division
is made to include all those influences which
render the body liable to disease, on the applica-
tion of of any cause capable of exciting it, &
to which the body may be accidentally exposed.
Or - in other words - Predisposing Causes are those
influences which favour the operation of those
occasional & Exciting Causes whence disease more
directly springs - To these two divisions some
writers add a third viz. Determining & Consecutive

Causes. — which being posterior to the others in point of time, determine a call into action the exciting causes, & rather come in aid of, & follow up the impression made by the latter, & which without such aid, might have been insufficient to produce actual disease, or would have induced it only in a slight degree.

I shall now proceed to enumerate some of those influences & circumstances which have been included under the head of Remote Causes of Disease; — & first, of the Predisposing Causes — They have been divided into three classes; —
— 1st such as are peculiar to individuals & the circumstances in which they are placed —
— 2nd such as are not peculiar to individuals, but which ^{affect} various persons, but individually & occasionally — & 3^{rdly} such as are general & affect more or less all who are exposed to them —
— The Individual Predisposing Causes are, 1st Hereditary Predisposition & Original Conformation; Temperaments & Habit of Body; — pursuits & circumstances of Life — & 2^{ndly} — Circumstances which

modify the functions, - as previous functional disorder, & convalescence from disease; & the frequent & transient states. First, then, - Hereditary Predisposition & Original Imperfection. The matter of "Family-resemblance" - as it relates to the external conformation of body is one of every-day-notice & universally admitted - it has also been generally observed, that the constitutions - temperaments & diathesis of the offspring closely resemble the parent; & that whatever disposition to disorder, whether of function or structure, the latter may have possessed is liable to show itself in the former. From this circumstance having been very generally remarked in respect of certain maladies, they have been termed - hereditary - To this class belong Scrophula in its various forms, - certain diseases of the Brain & Nervous System - such as Mania, Apoplexy, Epilepsy &c - But although there is an Hereditary Predisposition imparted from the parent to the child, it is still very rare that children are actually born with the disease of the parent - unless, per chance, we include under this

head certain contagious diseases, which being present in the mother contaminate the fetus in utero - such as Syphilis & Small Pox - which diseases, cannot, strictly speaking, be considered as hereditary - Hereditary diseases, then, are not necessarily Congenital - The converse of this proposition is also true viz: - Congenital Diseases are not necessarily Hereditary - Since the fetus in utero is subject to affections which are purely accidental & do not depend upon the constitution of the parents, or the ailments experienced by the mother during the period of gestation - Congenital Diseases are consequently divisible into - those which occur in the fetus, without any participation on the part of the parents - as, imperfect development of organs, mal-formations &c - those in which the Fetus participates with the mother, owing to their contaminating influence - as Syphilis, Small-Pox &c - & those that affect the Fetus from a constitutional liability in one or both parents - as in the different forms of Scrophula - Nervous Diseases &c -

More commonly, however, the child is born free from disease; but inheriting the constitution & diathesis of the parent is rendered susceptible to impressions produced by the existing causes of various maledies - But these diseases do not necessarily ensue, although one or both parents have been affected by them - since, several usually appear in alternate generations - & thus may be prevented from occurring by carefully avoiding those existing causes required to develop them -

The Hereditary Predisposition generally manifests itself more strongly at certain ages than at others, according to the malarial constitution inherited, the causes which excite it, & the nature of the maledy which results. This brings us to the consideration of Age - which may itself be considered as a predisposing cause of disease - Each of the periods of life is more liable to certain diseases than to others. In early infancy, there is great sensibility in the Nervous system - manifested by Epileptics, Convulsions & other heat affections - The Dermoid tissue is, likewise, more susceptible to disease than

at any other period of Life - hence the most frequent diseases of Infants, have their seat in this system - such as Cutaneous Eruptions, Aphthae, Diarrhea, Cholera Infantum, Croup, Bronchitis &c - At this age the Hereditary Predisposition frequently manifests itself - as in Hydrocephalus, Convulsions, Idiocy, Rickets, Scrophula &c -

After the first Dentition & during growth the powers of Life are energetic - as shown by the reaction of the vital functions upon the depressing causes of disease - There is, however, great susceptibility to impressions - & slight irritations are often followed by augmented vascular action & the whole frame is made to sympathize from the sensibility of the Nervous system - Consequently, at this period of Life, the predisposition is chiefly to inflammatory complaints - & to such diseases as are peculiar to childhood - such as, Pertussis, Rubella, Parotitis, Scarlatina &c -

About the time of Puberty - various complaints first make their appearance - usually, of an inflammatory character & to which there is an Hereditary

Predisposition - Tubercular disease of the lungs is often developed at this period & Scrophulous eruptions & Ulcerations of are not infrequent - From the Plethora which prevails throughout the system Hemorrhages are of frequent occurrence & Inflammatory diseases - such as Pleuritis & Pneumonia - at this time not uncommon -

At the Age of Maturity - the organism has acquired its full development & performs the functions with harmony & vigour - Hence, a greater degree of resistance is presented to the various causes of disease, at this time, than during the preceding or subsequent periods of Life - The predisposition to disease, however, varies greatly in different individuals, & may frequently be discerned by ascertaining their peculiar habits, mode of life & Organic Diseases, are, at this period very frequent - & in fact, most frequent - with the exception of such as are Scrophulous - as - Rheumatism, Asthma, Dyspepsia, Urinary Calculi, Diseases of the Heart & of the Brain - & in the decline of Adult ^{common} age, various diseases of the Arteries & veins are most

At the final period of Life, or that of old age
the entire organization is sensibly deteriorated
- & all the functions are performed feebly & im-
perfectly - Hence we find at this period - Int.
Softening of the Brain, Apoplexy, Paralysis - Diseases
of the organs of Sense, affections of the Urinary organs &c.
& decrepitude is the result -

Most of the diseases which I have thus en-
umerated as being peculiar to the period of Life at
which they usually appear, are those to which
both sexes are equally liable - But the con-
formation & temperament of females, the sym-
metry existing between their generative organs
& the state of circulation in the Brain, the
marked susceptibility of their nervous system,
& great mobility of their muscular organs,
dispose them - especially those in cities &
populous towns - to various nervous diseases -

The changes which take place in the gen-
erative system also, frequently induce maladies
of a nervous or cachectic character. At the period
for the commencement of the Menstrual discharge

Nervous affections are common - such as Chorea, Hysteria, Chlorosis - resulting from difficult, suppressed & irregular catamenia. At the time of the cessation of this discharge - i.e. at the climacteric period - the system undergoes great & frequently unfavourable changes - & maladies are developed hitherto latent & incurable - such as Tumours of the Breast - Leucorrhoea & Cancer - Organic Lesions of the Uterus & Generative system -

It has been observed, however, that females are less liable than the other sex to suffer from diseases which are Epidemic & Endemic - This is probably owing to the fact, that they are less exposed to the exciting & determining causes of disease & in part it may be attributed to their periodical discharges, which tend to diminish Plethora & to purify the blood -

2nd - Temperaments & Habit of Body -

Much stress has been placed upon Temperaments, as to their influence in a pathological point of view - since they not only indicate the peculiarities of constitution of any particular individual

but they also predispone to those particular forms
of disease which their characters denote -

They have been variously divided - but the most
common division at present seems to be into -

The Sanguine or Sarvatic - The Bilious - The
Lymphatic & Phlegmatic & The Nervous - Of these
The Sanguine - predisposes (as its name denotes)
to Plethora, Acute Inflammations - Hemorrhages,
Inflammatory Fevers - Pneumonia &c -

The Bilious - to Biliary derangements - Bilious Fevers
Affecting the Stomach & Bowels, Mucous disorders,
- chronic Cutaneous Eruptions & to various organic
derangements of the Abdominal Viscera -

The Phlegmatic Temperament most readily
experiences Catarrhal attacks, slow Fevers, chronic
discharges, Dropsies, Scrophulous & Scatulous
affections, diseases of the Joints & Glands, Tub-
erculous & other Chronic diseases -

The Nervous - disposes chiefly to convulsive diseases,
especially to Hysteria, in females; to Mania & Insanity
& to Nervous & Typhoid Fevers -

The Temperaments are frequently mixed & are

accendant predisposition will be the result -
As, for example - the Sanguine-Bilious Temperament
would give a predisposition to Bilious Inflamm-
matory Fevers, Hepatitis, &c -

Again - The different pursuits in which
men are engaged, their trades & professions
may operate as predisposing causes of disease -
The Actor & Statesman regularly engaged in
in frequent & energetic debate, are rendered
liable to affections of the chest & Larynx -

While sedentary habits bring on disorders
of the Digestive organs - a train of disturbances
in the Nervous system - Those, whose occupation
leads them to almost constant exposure in the
open air & to active exercise under their predisposition
to disease in general, less than that of other persons
- but they are still disposed to acute inflammatory
attacks - such as Pneumonia & Rheumatism -

Beside these there are certain employments which
seem to operate not only as predisposing causes of disease
but at the same directly to favour the introduction of
disease into the system - To this class belong Painters, Millers &c -

The Habits of Life, also, exert a powerful influence in predisposing the system to take on diseased action. Excessive indulgence of the appetites dispose to Plethora, Apoplexy, Paralysis, Gout, Dropsy, Pulmonary Disease, Disease of the Heart, Epilepsy, Mania - etc. - It also weakens the vital energies & thus favours the operation of the common exciting causes of disease. - On the other hand, - Destitution of the comforts of Life & want of proper nutriment may, & frequently do induce debility - & thus dispose to those diseases which are dependant upon this state - as. Low Typhoid Fevers, Scrophula, Scatutic Disorders - Dysentery & other diseases of a kindred nature.

Previous Disorder & Convalescence from other diseases, occasionally, also, operate as predisposing causes to further disease. After a severe & protracted attack of a violent disorder, the whole system is, ordinarily, affected with great depression & debility - The powers of Life are weak & unable to oppose the progress of disease in the animal economy with the same energy as its aggression - thus, there is a predisposition to be affected by the same disease at no distant interval, or a liability

is induced to certain determinate diseases, but following as regular - Thus an attack of Scarlet Fever predisposes the system - while in a state of convalescence - to certain Dropsical effusions - Other diseases are followed by local congestions & other disorders dependent upon partial exhaustion of the vital endowment & consequent debility of the functions.

The last of the Individual predisposing causes which I shall notice will be - those arising from the Puerperal & Puerperal states - These states are said to retard (during their continuance) the progress of certain chronic & curious maladies; still there can be no doubt but that these states favour, in a very marked manner, the recurrence of diseases which are common & frequently fatal - The condition of the female organs & constitution, at these times, predispose to the invasion of exciting causes which develop maladies that are peculiar & dependent upon these states - such as low Puerperal Fevers - & to such as are not, necessarily dependent upon, although in a notable manner favoured by their presence - such as Inflammation of the Uterus & Peritoneum - Uterine Hemorrhage, Convulsions etc.

The 2nd Class of Predisposing Causes are - those which are not peculiar to the individual, but which affect various persons, though individually & occasionally - They dispose the body to take on disease by inducing by inducing states of direct or indirect debility. I shall merely enumerate some of them -
- Depression of the Mental & Vital energies - Intemperance in Food & Drink - Excessive exertions & evacuations - Indolence & too great exertion - Sleep - & uncontrolled temper, passions & desires - These all have more or less influence in the production of disease - & I can't dwell upon them -

Lastly, - General predisposing causes - Of these the most universal in their operation are certain states & conditions of the atmosphere - as temperature & moisture - These vary much in degree - in different climates & at different seasons of the year & at different periods of time - They doubtless exert a powerful influence upon disease & are thus objects of great interest to the Medical practitioner - But my time & limits prevent me from entering into their consideration - I shall therefore refer directly to our 2nd grand division of causes which is into -

Exciting Causes— The causes already discussed dispose the body to the action of those about to be noticed—so that, upon the operation of the latter, disease is directly excited. But the predisposing causes, may, by their activity produce disease without the aid of the latter—the predisposing being, in each case, the true & only exciting cause—& on the other hand, the Exciting causes frequently produce their effects, without the previous operation, as far as can be ascertained, of the predisposing causes & many of them merely predispose the system to the action of others, which follow in succession—To enumerate the Exciting causes of disease would be fruitless & almost impossible since they are so various & so dissimilar—They may, however, be divided into those which are occasional in their operation & into those which are specific or which are attended with determinate results—

The Occasional may act either upon the vital functions or directly upon the organization—& may be divided into—those which are applied to, & disorder or obstruct

the functions of the external parts of the body—those which make their noxious impressions upon the respiratory ^{organs} surface—
—those which act primarily upon the digestive organs—
—those which affect the organs of sense & lastly—those which excite mental emotions—

Of the Specific causes of disease I shall say nothing -
They are those causes which always produce the same
disease in those who are exposed to their action -
They give rise to those diseases which are considered
Contagious, Epidemic or Endemic - & are very convenient
terms to denote the origin of diseases whose causes
are obscure or but little understood -

Thus, Gentlemen, I have attempted & though
very rudely & imperfectly - as you have perceived &
a general consideration of those various cir-
cumstances & influences which give rise
to diseased states in the animal economy - &
I have now arrived at that point, which you
have all, doubtless, been for a long time anxious
expecting & most devoutly desiring - viz -

The End -

R. J. Olmstead

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